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| APPLICATION NO.         | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------|-------------|----------------------|---------------------|------------------|
| 10/647,516              | 08/26/2003  | Hideaki Kojima       | 009270-0305497      | 2695             |
| 909                     | 7590        | 02/09/2005           | EXAMINER            |                  |
| PILLSBURY WINTHROP, LLP |             |                      | PAIK, STEVE S       |                  |
| P.O. BOX 10500          |             |                      | ART UNIT            | PAPER NUMBER     |
| MCLEAN, VA 22102        |             |                      | 2876                |                  |

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/647,516

**Applicant(s)**

KOJIMA, HIDEAKI

**Examiner**

Steven S. Paik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/26/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The applicant submitted a reference in a form of the IDS. However, the form lacks a proper form of the PTO-1449. The examiner has noted that the cited reference is the US. Patent Application publication, US 2004/0004120A1. Therefore, the reference has been considered and incorporated in the PTO-892 form.

### ***Specification***

2. The disclosure is objected to because of the following informalities: the reference numeral 23m on page 11 in paragraph [0060] appears to be -- 23 --.

Appropriate correction is required.

### ***Claim Objections***

3. Claims 1-20 are objected to because of the following informalities: it is respectfully suggested to amend the following informalities to present the claimed invention in a more precise and appropriate form.

Claims 1 and 11: please consider replacing the phrase "capable of" by -- for --.

Claims 5-7: the preamble, "The card system" is not consistent with an independent claim which claim 5 depends on. "The card system" and "The card processing system" may be interpreted differently.

Claim 7: "waning means" in line 9 appears to be -- warning means --.

Claim 8: "couldn't obtained" in line 5 appears to be -- could not be obtained --.

Claim 11: please replace the word "it" in line 4 on page 36 by -- said on-board unit --.

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Claim 16: please replace the word "it" in line 4 of the claim by -- the second executing step --.

Dependent claims 2-10 and 12-20 are objected due to their dependent relation with claims 1 and 11 respectively.

Due to the numerous claim objections as set forth above, the Applicant's cooperation is respectfully requested in reviewing and correcting the claims to place them in a better form.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 recites the limitation "the process" in lines 5 and 8. There is insufficient antecedent basis for this limitation in the claim. The examiner request the applicant to precisely define each process to clearly distinguish the processes each processor performs. Dependent claims 2-10 are rejected due to their dependency on claim 1.

6. Claim 6 recites the limitation "the exit processor" in line 6. There is insufficient antecedent basis for this limitation in the claim. The examiner has attempted to interpret the limitation in light of the Specification to further prosecute the present patent application.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isobe et al. (US 6,019,285) in view of Kreft (US 5,206,495).

Re claim 1, Isobe et al. disclose a card processing system (Fig. 1) using an IC card (IC card 20) capable of exchanging information through an electrical contact (interface part 21) with an on-board unit (vehicle-mounted unit 10) installed in a vehicle using a toll road and a wireless communication (Abstract) with an antenna unit installed at a roadside (road side unit 60) of the toll road comprising:

a first processor (control part 19) configured to execute the process through the wireless communication with the on-board unit (10) by inserting the IC card (20) so as to electrical contact (via interface part 18) the on-board unit; and

a second processor (control part 23) configured to execute the process a communication with the IC card (20) when an error is generated in the process by the first processor (col. 2, ll. 50-67).

The communication between the IC card and the roadside unit when an error is generated in the process by the first processor is not specifically disclosed in the Isobe et al. reference.

Kreft discloses a single IC card (chip card) that can function in contact or contactless communication. The capability undoubtedly increases its acceptability in various card-reading systems. In addition, there is a tremendous amount of savings in cost and space since the card does not require two separate readers, contact type and contactless type.

In view of Kreft, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to further employ a combi or hybrid IC card in addition to the card processing system of Isobe et al. due to the fact that data can be exchanged in contact or

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contactless communication protocol on a single IC card for the purposes of increasing the usability and acceptability of the IC card and saving cost and space since the card does not require two separate readers, contact type and contactless type.

Re claim 2, Isobe et al. in view of Kreft disclose the card processing system as recited in rejected claim 1 stated above, wherein the first processor and the second processor are executed at an entrance of the toll road, respectively (col. 2, ll. 59-67).

Re claim 3, Isobe et al. in view of Kreft disclose the card processing system as recited in rejected claim 1 stated above, wherein the first processor and the second processor are executed at an exit of the toll road, respectively (col. 6, ll. 5-43).

Re claim 4, Isobe et al. in view of Kreft disclose the card processing system as recited in rejected claim 2 stated above, further comprising:

comparison/collation means for comparing and collating the on-board unit peculiar information (col. 4, ll. 18-42) that are stored in the on-board unit and the IC card (col. 4, ll. 35-63), respectively when the IC card storing entrance information of the toll road by the second processor (control part 23) is inserted in the on-board unit; and

means for storing the entrance information stored in the IC card in the on-board unit when respective if vehicle unit peculiar information are matched by the comparison/collation means (col. 5, ll. 1-20).

Re claim 5, Isobe et al. in view of Kreft disclose the card processing system as recited in rejected claim 2 stated above, further comprising:

a comparison/collation means for comparing and collating the on-board unit peculiar information and entrance information that should have been stored in the on-board unit and the

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IC card (20), respectively when the IC card storing the entrance information obtained by the on-board unit (10) in the entrance processing at the entrance by the first processor (control part 19) is pulled out of the on-board unit (10) and inserted into the on-board unit again; and

means for storing a possibility of illegality in at least either one of the IC card (20) and the on-board unit (10) when at least either one of the on-board unit peculiar information and the entrance information is detected as being mismatch (col. 5, ll. 1-20 discloses the process of detecting vehicle type information and comparing the vehicle type information from the vehicle type detection apparatus with other vehicle type information included in the vehicle information received from the passing vehicle. A vehicle-mounted unit stores vehicle information, information of the registered vehicle-mounted unit, information regarding the entrance and the exit, and information regarding an IC card. The comparing process verifies the aforesaid information stored previously.).

Re claim 6, Isobe et al. in view of Kreft disclose the card processing system as recited in rejected claim 3 stated above, wherein the second processor includes judging means for judging the exit process is possible by collating the information obtained from the IC card through the wireless communication with the IC card and the information obtained from the on-board unit before the exit process that is executed by the first processor is abnormally finished, and the exit processor to execute the exit process by determining a vehicle class from the information obtained from the IC card, further comprising:

means for storing information (Info. Rec. Part 22) of the result of the exit process by the exit processor (The second processor, control part 23, is interpreted an exit processor.) and the abnormally finished history information (Information of past usage record) in the exit process by

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the first processor (The vehicle-mounted unit saves the entrance, route, and exit information in the recording unit and a separate recording medium as a backup for the purpose of operating the toll system in a situation where the vehicle-mounted unit is malfunctioning.).

Re claim 7, Isobe et al. in view of Kreft disclose the card processing system as recited in rejected claim 2 stated above, further comprising:

notifying means for notifying that the IC card is not inserted in the on-board unit to a user of the IC card when peculiar information of the on-board unit was obtained by the first processor that is executed at the entrance of the toll road but the individual information of the IC card was not obtained (col. 5, ll. 24-46);

comparison/collation means for comparing and collating the peculiar information of the on-board unit stored in the on-board unit and the IC card when the IC card is inserted into the on-board unit (col. 5, ll. 1-20); and

warning means for warning the possibility of illegality for use of IC cards or on-board units (There is a step that executes a process for discharging the IC card if the IC card is not a suitable card. For example, if an automatic discharge mechanism is installed in the vehicle-mounted unit, the automatic discharge mechanism discharges the IC card automatically; otherwise, a buzzer generates the buzzer sound and display 14 indicates discharging of the IC card.).

Re claim 8, Isobe et al. in view of Kreft disclose the card processing system as recited in rejected claim 3 stated above, further comprising:

notifying means for notifying a user of the IC card that the IC card was not inserted in the on-board unit when peculiar information of the on-board unit was obtained by the first processor



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that is executed at the exit of the toll road but the peculiar information of the IC card couldn't be obtained (col. 5, ll. 24-46);

comparison/collation means for comparing and collating the peculiar information of the on-board unit stored in the on-board unit and the IC card (col. 5, ll. 1-20), respectively when the IC card is inserted into the on-board unit; and

warning means for warning a possibility of illegality for use of IC cards or on-board units when the on-board unit peculiar information are detected as being mismatched as a result of the comparison by the comparison/collation means (col. 5, ll. 1-20).

Re claim 9, Isobe et al. in view of Kreft disclose the card processing system as recited in rejected claim 2 stated above, wherein the second processor (control part 23) is executed through the wireless communication with the IC card pulled out of the on-board unit and further comprising:

detecting means for detecting that the IC card is inserted into the on-board unit (col. 5, ll. 24-46);

means for storing peculiar information of the on-board unit stored in the on-board unit (Info Rec. Part 13) in the IC card (Info. Rec. Part 22) and individual card information stored in the IC card in the on-board unit when the detecting means detects that the IC card is inserted in the on-board unit;

comparison/collation means for comparing and collating the peculiar information of the on-board unit stored in the IC card and the peculiar information of the on-board unit stored in the on-board unit when the IC card is inserted in the on-board unit again after the second processor

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is executed with the IC card pulled out of the on-board unit (col. 4, ll. 17-63 disclose information recorded in the vehicle-mounted unit and the IC card.); and

warning means for warning possibility of illegality when the peculiar information of both the on-board units are detected as being mismatched as a result of the collation by the comparison/collation means (col. 5, ll. 1-16).

Re claim 10, Isobe et al. in view of Kreft disclose the card processing system as recited in rejected claim 1 stated above, further comprising:

detecting means (interface part 18) for detecting a contact defect by the communication through the electrical contact provided in the IC card (interface part 21);

reading means (road side units 30-50) for reading out the information stored in the IC card through an antenna provided in the IC card by the second processor (control part 23) when the contact defect is detected by the detecting means (The IC card stores entrance, route, and exit information as a backup and communicates with road side unit in case the function of the vehicle-mounted unit is improper); means for sending the IC card information read by the reading means to an upper rank host computer for enquiry (col. 5, ll. 17-21); and

means for writing the IC card information in a separate new IC card and reissuing this IC card when the match is answered by the upper rank host computer in response to the enquiry made for the IC card (col. 6, line 44 – col. 7, line 14).

Method claims 11-20 are essentially the same in scope as apparatus claims 1-10 and are rejected similarly.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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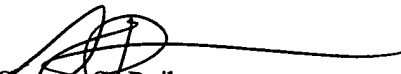
Ando et al. (US 5,955,970) disclose a toll gate system in which the toll is automatically collected through wireless communication between an on-board unit and a roadside unit;

Maeda et al. (US 5,926,546) disclose an automatic toll collection from a vehicle-mounted unit and an IC card including transceivers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven S. Paik whose telephone number is 571-272-2404. The examiner can normally be reached on Mon - Fri (5:30am-2:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Steven S. Paik  
Primary Examiner  
Art Unit 2876

ssp